

MANUFACTURE OF SEMICONDUCTOR DEVICE

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Abstract

PURPOSE: To enable adsorption formation of excess-free Ga atomic layer by restraining taking-in of C atom which becomes impurity by adsorbing Ga atom mainly through TEG and by adsorbing lacking Ga atoms through TMG.

CONSTITUTION: When a Ga atomic layer is adsorbed to an atomic plane of a substrate, a Ga atom amount which does not cause Ga adsorption in excess of one atomic layer is adsorbed at first using triethylgallium(TEG) as a raw material. Then, lacking Ga atoms are adsorbed to one atomic layer at Ga atomic layer to complete a Ga layer of one atomic layer using trimethylgallium(TMG) as a raw material. Arsine is used as a raw material of As in the growth of GaAs, and As which is another element to constitute compound semiconductor is supplied. Adsorption formation of excess-free Ga atomic layer can be realized in this way.